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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/608,238	06/27/2003	Bradley C. Sammann	02-639	8547
34704	7590	10/27/2004	EXAMINER	
BACHMAN & LAPOINTE, P.C. 900 CHAPEL STREET SUITE 1201 NEW HAVEN, CT 06510			RODRIGUEZ, WILLIAM H	
			ART UNIT	PAPER NUMBER
			3746	

DATE MAILED: 10/27/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/608,238

Applicant(s)

SAMMANN ET AL.

Examiner

William H. Rodriguez

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-6, 8-15 and 18-23 is/are rejected.
- 7) ☒ Claim(s) 7, 16 and 17 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 June 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 6/27/03; 6/18/04.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☒ Other: claims for case 10/608,939.

DETAILED ACTION***Double Patenting***

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claims 1, 11, 14, 18, 19 and 20 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 6, 8, 9 and 10 of **copending Application No. 10/722,158**. Although the conflicting claims are not identical, they are not patentably distinct from each other because of the following reasons.

With respect to claim 1, claim 1 of the instant application is merely broader than claim 1 of the copending application (10/722,158). Claim 1 of the instant application recites the following elements: *a turbine engine comprising: a case, a compressor, a turbine, a circumferential array of combustion conduits, the array being supported for continuous rotation relative to an axis to cyclically bring each conduit from a discharge zone for receiving a charge*

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from upstream to a discharging zone for downstream discharging of product of combustion.

While, claim 1 of the copending application '158 recite the following elements: *a turbine engine comprising: a case, a compressor, a turbine, a circumferential array of combustion conduits, the array being supported for continuous rotation relative to an axis to cyclically bring each conduit from a discharge zone for receiving a charge from upstream to a discharging zone for downstream discharging of product of combustion.* Thus, the elements recited by claim 1 of the instant application are contained within claim 1 of the copending application'158. On the other hand, claim 1 of the copending application'158 is more specific because they recite a manifold and a flow path. Nevertheless, the more specific claim 1 of the copending application'158 "anticipates" the broader claim 1 of the instant application.

With respect to claim 11, claim 11 of the instant application is merely broader than claim 6 of the copending application (10/722,158). Claim 11 of the instant application recites the following elements: *a turbofan engine comprising: a fan, a compressor, a turbine, a pulsed combustion combustor, a plurality of combustion chamber conduits held for rotation about an axis through a plurality of positions: including at least one charge position, at least one initiation position, and at least one discharge position.* While, claim 6 of the copending application '158 recite the following elements: *a turbofan engine comprising: a fan, a compressor, a turbine, a pulsed combustion combustor, a plurality of combustion chamber conduits held for rotation about an axis through a plurality of positions: including at least one charge position, at least one initiation position, and at least one discharge position.* Thus, the elements recited by claim 11 of the instant application are contained within claim 6 of the copending application'158. On the other hand, claim 6 of the copending application'158 is more

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specific because they recite means for directing the charge, a first portion, a second portion, and means for controlling leakage. Nevertheless, the more specific claim 6 of the copending application'158 "anticipates" the broader claim 11 of the instant application.

With respect to claim 14, claim 14 of the instant application is merely broader than claim 14 of the copending application (10/722,158). Claim 14 of the instant application recites the following elements: a pulsed combustion device comprising: *a support structure, a combustor carousel rotating relative about an axis and comprising a plurality of combustion conduits in a circumferential array, each cyclically receiving a charge and discharging combustion products of the charge.* While, claim 8 of the copending application '158 recite the following elements: *a turbofan engine comprising: a support structure, a combustor carousel rotating relative about an axis and comprising a plurality of combustion conduits in a circumferential array, each cyclically receiving a charge and discharging combustion products of the charge.* Thus, the elements recited by claim 14 of the instant application are contained within claim 8 of the copending application'158. On the other hand, claim 8 of the copending application'158 is more specific because they recite a non-rotating manifold portion having a first sector and a second sector. Nevertheless, the more specific claim 8 of the copending application'158 "anticipates" the broader claim 14 of the instant application.

With respect to claims 18-20 of the instant application, these claims are anticipated by claims 8-10 of copending application '158. Compare claims 18-20 of the instant application with claims 8-10 of copending application '158.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

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3. Claims 1-6, 8-14, 19 and 22 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 3, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 16, 17 of **copending Application No. 10/608,939**. Although the conflicting claims are not identical, they are not patentably distinct from each other because of the following reasons.

With respect to claim 1, compare claim 1 of the instant application with claims 1 and 3 of the copending application '939. Copending application '939 does not teach a case. However, it would have been obvious (if not inherent) to one of ordinary skilled in the art at the time the invention was made to have provided a case to the turbine engine in order to protect the internal components of the turbine (i.e., blades, combustion chamber/burners, etc) from the environment as well to prevent damage to those components by object hitting such delicate components.

With respect to claims 2-6, 8 and 9, compare these claims with claims 7, 8, 9, 6, 5, 4 and 10 respectively of the copending application '939.

With respect to claim 10, Copending application '939 does not teach means for stating rotation of the turbine. However, it would have been obvious (if not inherent) to one of ordinary skilled in the art at the time the invention was made to have provided some kind of starting means (starter motor, etc) to the turbine in order to start rotation of the turbine.

With respect to claims 11-13, compare these claims with claims 11, 14 and 15 respectively of the copending application '939.

With respect to claim 14, compare claim 14 of the instant application with claims 16 of the copending application '939. Copending application '939 does not teach a support structure. However, it would have been obvious (if not inherent) to one of ordinary skilled in the art at the

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time the invention was made to have provided a support structure to the combustion device in order to provide a supporting structure for the combustor (the combustor has to inherently be supported by some sort of supporting structure, it is not floating on the air).

With respect to claims 19, compare this claim with claim 17 of the copending application '939.

With respect to claim 20, copending application '939 does not teach that the combustion conduits have a median cross-sectional area between 12.9- 51.6 square centimeters. However, selection/optimization of the diameter of the combustion conduits within the claimed range was a design choice that was within the level of one of ordinary skilled in the art at the time the invention was made. This diameter design selection could have selected among other factors based on the desired size of the engine as well as the desired number of conduits.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

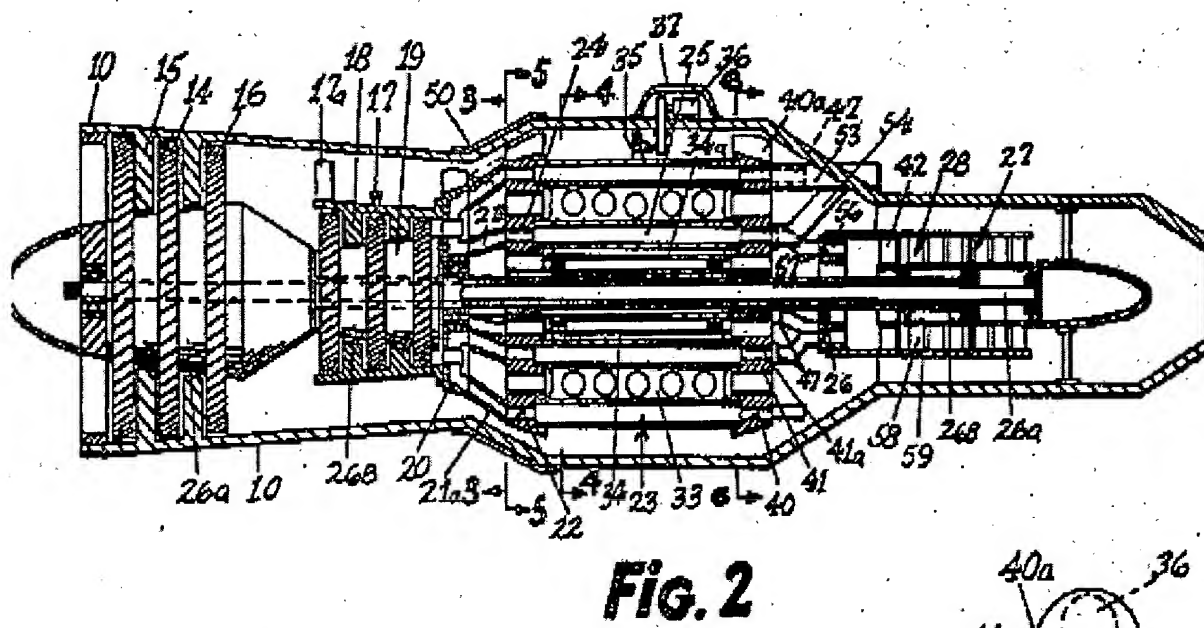
Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 2, 4, 9, 14, 15, 18, 19, 21 and 23 are rejected under 35 U.S.C. 102(b) as being anticipated by Call (U.S. 3,417,564).

**Fig. 2**

With respect to claim 1, **Call** teaches a turbine engine comprising: a case having an axis; a compressor 14; a turbine 27, 28; and a circumferential array of combustion chamber conduits 32, the conduits being downstream of the compressor and upstream of the turbine, the array being supported for continuous rotation relative to the case in a first direction about the axis to cyclically bring each conduit from a charging zone for receiving a charge from upstream to a discharging zone for downstream discharging of products of combustion of said charge. See particularly **Figure 2, 4**; column 2 lines 28-35, 36-43, 45-46; and column 5 lines 24-26, 46-55, 66-68 of **Call**.

With respect to claim 2, **Call** teaches that there is a first airflow substantially through said compressor and turbine and wherein a first portion of the first airflow passes the combustion chamber conduits in the charges and a second portion of the first airflow bypasses combustion and a mass flow ratio of the first portion to the second portion is about 1:1. See particularly **Figure 2, 4** of **Call**.

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With respect to claim 4, **Call** teaches that the combustion comprises detonation. See particularly column 1 lines 33-36, 54-63; and column 2 lines 28-35, 36-43, 45-46 of Call.

With respect to claim 9, **Call** teaches a plurality of igniters, each of which is positioned relative to an associated one of the conduits to ignite the combustion of the charge in said associated conduit. See particularly column 1 lines 54-63; and column 2 lines 36-43 of Call.

With respect to claim 14, **Call** teaches a pulsed combustion device (column 1 lines 33-36, 54-63; and column 2 lines 28-35, 36-43, 45-46) comprising: a support structure 41a; and a combustor carousel 23, 25 supported by the support structure and rotating relative thereto about an axis and comprising: a plurality of combustion conduits 32 in a circumferential array, each cyclically receiving a charge and discharging combustion products of the charge. See particularly **Figure 2, 4**; column 2 lines 28-35, 36-43, 45-46; and column 5 lines 24-26, 46-55, 66-68 of Call.

With respect to claim 15, **Call** teaches the combustor carousel 23, 25 further comprises means 26 for driving said rotation of the carousel.

With respect to claim 18, **Call** teaches that the combustion comprises detonation. See particularly column 1 lines 33-36, 54-63; and column 2 lines 28-35, 36-43, 45-46 of Call.

With respect to claim 19, **Call** teaches a compressor upstream of the carousel; and a turbine downstream of the carousel.

With respect to claim 21, **Call** teaches that there are at least ten such combustion conduits 32 (column 5 lines 66-68).

With respect to claim 23, **Call** teaches that the device is used in aircraft propulsion (column 1 lines 60-63).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Johnson et al. (U.S. 6,442,930)** in view of **Call (U.S. 3,417,564)**.

With respect to claim 11, **Johnson** teaches a turbofan engine comprising a fan, compressor and combustor. However, **Johnson** does not teach that his turbofan engine comprises a rotating pulse combustion chamber. Nevertheless, **Call** teaches a turbine engine comprising: a compressor 14, 17; a turbine 27, 28 coaxial with the compressor along an axis; a pulsed combustion combustor 23, 25 receiving air from the compressor and outputting combustion gasses to the turbine and having: a plurality of combustion chamber conduits 32 held for rotation about the axis through a plurality of positions, including: at least one charge receiving position for receiving a charge from upstream; at least one initiation position for initiating combustion of the charge; and at least one discharge position for downstream discharging of products of combustion of said charge. Call teaches that his combustion chamber is simple in construction and economical to manufacture. Therefore it would have been obvious to one of ordinary skilled in the art at the time the invention was made to have place Call's pulsed rotating combustor into Johnson's turbofan engine so as to reduce the cost and complexity of manufacturing. See particularly **Figure 1** of Johnson; and **Figure 2, 4**; column 1 lines 60-64; column 2 lines 28-35, 36-43, 45-46; and column 5 lines 24-26, 46-55, 66-68 of Call.

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With respect to claim 12, **Call** teaches that the engine further comprising at least one fuel injector for injecting fuel into air from the compressor to form the charges. See particularly column 2 lines 28-35, 36-43, 45-46; and column 5 lines 24-26, 46-55, 66-68 of Call.

Allowable Subject Matter

5. Claims 7, 16 and 17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

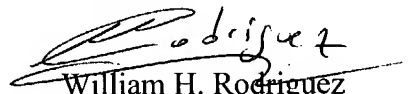
Contact information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **William H. Rodriguez** whose telephone number is **703-605-1140 (until 11/22/04) and 571-272-4831 (starting 11/23/04)**. The examiner can normally be reached on Monday-Friday 7:30 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cheryl J Tyler can be reached on 703-306-2772 (until 11/18/04) and 571-272-4834 (starting 11/19/04). The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


William H. Rodriguez
Examiner
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